

In letter to NRC, lawmakers call system for inspecting pipes at plants nationwide “profoundly inadequate.” WASHINGTON, D.C. – Representative Edward J. Markey (D-Mass.), Chairman of the Energy and Environment Subcommittee and Rep. John Hall (D-N.Y.) sent a letter yesterday to the Nuclear Regulatory Commission questioning the process for inspecting buried pipes critically important to the cooling systems at our nation’s nuclear power plants. On February 16, a 1.5 inch hole was discovered in a buried cooling water pipe, which had already leaked 100,000 gallons, at the Indian Point nuclear reactor. According to media reports, the broken pipe had not been inspected since 1973, when the reactor was built.

“The NRC has a duty to protect the public and serve as a watchdog. With eight percent of the U.S. population living within 50 miles of Indian Point, any breakdown there would be catastrophic,” said Rep. Hall. “The recent incident indicates a serious potential for disaster that must be understood and sufficiently monitored to prevent problems. The aging buried infrastructure at Indian Point cannot be ignored by the NRC and should be a major consideration in Indian Point’s re-licensing process.”

“This leak demonstrates that the system for detecting such leaks is profoundly inadequate and requires an urgent update,” said Chairman Markey. “We need to make sure these critical safety systems are inspected before its too late.”

The broken pipe was part of the primary backup cooling system, which must cool the reactor during any unexpected shutdown. Such unexpected shutdowns occur on average once a year at all nuclear power plants. The backup cooling system was taken offline for several days while the leaking section of the buried pipe was dug up and replaced.

Underscoring the significance of the backup cooling system, only three weeks after the discovery of the broken pipe forced the backup cooling system offline, the reactor experienced an unexpected shutdown and the backup system was used to cool the reactor. If this had happened only three weeks earlier, when the backup system was offline, the reactor operators would have been forced to attempt to cool the core with regular city water, which is considered by experts to be less suitable for cooling the reactor.

Full text of the letter can be found below:

April 30, 2009

The Honorable Dale E. Klein

Chairman

U.S. Nuclear Regulatory Commission

Washington, DC 20555 Dear Chairman Klein: We write in regard to the recent discovery of a major leak in a buried pipe associated with the Auxiliary Feed Water (AFW) system at the Indian Point nuclear power reactor. Since water delivered to and from nuclear power reactors through buried pipes is expected to play a large role in avoiding a catastrophic meltdown in the event of a terrorist attack or accident, we are concerned that this leak may demonstrate a systemic

failure of the licensee (Entergy), and the Commission, to inspect critical buried pipes in a manner sufficient to guarantee the public health and safety.

The AFW system plays a critical safety role in reactor operation. During periods of reactor shutdown, such as a reactor trip, during which the primary feedwater system is inoperable, the AFW system is responsible for reactor core cooling. Should the AFW system not function properly during such an event, the same municipal water system which runs through homeowners' pipes would become the last line of defense for reactor core cooling. However, municipal water systems are not designed or operated to meet critical public health and safety requirements, and should not be relied upon for such.

According to NRC documents recently obtained by our offices as well as discussions with individuals familiar with the event, on February 16, 2009, Entergy determined that a buried section of the Unit 2 condensate storage tank (CST) return line was leaking water at a rate of approximately 18 gallons per minute. Upon unearthing the affected pipe, it was discovered that a 1.5 inch diameter corrosion hole was the source of the leak. According to media reports, 100,000 gallons had leaked. Entergy then declared the CST inoperable. This declaration meant that the only source of dedicated safety-related cooling water was unavailable, and the Indian Point reactors were totally dependent on city water not designed to be used for core cooling in the event of an emergency.

Such a scenario is unfortunately not merely theoretical. On April 3, 2009, only weeks after the loss of the AFW system because of the corrosion leak, Indian Point Unit 2 shut down unexpectedly. Fortunately, the AFW system functioned correctly and cooling was maintained to the reactor. However, had the AFW inoperability and the unexpected reactor shutdown occurred simultaneously, or should have the AFW system suffered a new pipe failure during the reactor shutdown, only city water would have been left to cool the reactor. The AFW system is a critical safety component of the Indian Point reactors, as well as other nuclear reactors. City water is not a reliable substitute and must not be relied upon to prevent reactor core damage.

We are shocked that a 1.5 inch diameter hole, leaking at a rate of 18 gallons per minute, could develop without detection. We are concerned that the current inspection regime for vital buried pipes, which reportedly consists of physical inspections being conducted only in those rare instances when pipes are dug out for other purposes, is profoundly inadequate to ensure the public health and safety.

It is clear that physically inspecting buried piping systems poses unique challenges due to limited accessibility. However, the limited accessibility and associated costs of inspecting buried pipes and systems does not render them immune from corrosion or damage, nor does it obviate the need for a comprehensive inspection regime of such systems to ensure operability. We would note that many industries have successfully developed technologies and programs to monitor and inspect difficult-to-access piping.

Please provide answers to the following questions regarding the recent major leak at Indian Point and buried pipe inspections:

- What is the role of AFW as a safety system at Indian Point, or any other commercial

pressurized water reactor? During what events is AFW intended to be relied upon? Other than AFW, what other dedicated safety-related systems exist to cool the core during an unexpected reactor shut-down?

- Has the Commission performed an analysis of the consequences of a total failure of the AFW system at Indian Point, or any other commercial power reactor, that includes an analysis of what might occur if the regular feedwater supply is also interrupted by a routine power outage, terrorist attack or accident? If so, what would be the consequences of such a failure? If not, why not?

- Indian Point Unit 2 shut down unexpectedly on April 3, 2009. During this unplanned shutdown, apparently caused by a failed pipe in the main feedwater control system, was AFW used at any time to cool the reactor? What would have been the consequences of a concurrent failure of the AFW system at the time of the April 3, 2009, shutdown?

- What was the root cause of the pipe corrosion at Indian Point? What other pipes are buried at Indian Point? Has the discovery of the 1.5 inch corrosion hole prompted the licensee to inspect other buried pipes for similar corrosion? If so, what has been found? If not, why not? Has the discovery of the 1.5 inch corrosion hole prompted the Commission to inspect other buried pipes at other reactor sites for similar corrosion? If so, what has been found? If not, why not?

- What are the Indian Point licensee's requirements under the current licensing basis to inspect buried pipe? What programs does the licensee have in place to assure the emergency cooling systems meet the design requirements of 10 CFR 50 Appendix A (GDC 44, 45, 46)? What programs does the licensee have in place to assure the operability of underground piping systems as required by 10 CFR 50 Appendix B (Criterion X, XI and XVI), 10 CFR 50.55(a) and ASME Section XI?

- When was the last licensee inspection of buried pipe at Indian Point, and what were the results of the inspections? If there has not been a recent inspection, how would the licensee not be in violation of 10 CFR 50 Appendix B (Criterion X, XI and XVI), and 10 CFR 50.55(a)?

- When was the last Commission inspection of buried pipes at Indian Point, and what were the results of the inspections?

- How can the general public be assured that all buried pipes will retain structural integrity in the event of an earthquake or other external event? Does the Commission require licensees to conduct inspections of buried pipe for cooling water generally? If so, are any licensees failing to conduct such inspections? If there have not been recent inspections, how would licensees not be in violation of 10 CFR 50 Appendix B (Criterion X, XI and XVI), and 10 CFR 50.55(a)?

- Please provide a list of licensee inspections of buried pipe in the last ten years, and their results, including the number, size and locations of detected leaks, failures, and incidents of corrosion. Please also provide a list of Commission inspections of buried pipes in the last ten years, and their results.

- Has the Commission ever considered requiring licensees to develop technologies and methods to inspect difficult-to-access buried pipes?

If so, why are such requirements not in place? If not, why not?

Thank you for your prompt attention to this request. Should you have any questions, please contact Will Huntington of Rep. Markey's staff at 202-225-2836 or Jim Bradley of Rep. Hall's staff at 202-225-5441. Sincerely,

Edward J.

Hall, Markey Question Pipe Leak at Indian Point Nuclear Power Plant

Friday, 01 May 2009 00:00

Markey

John J. Hall

Chairman

Member of Congress

Subcommittee on Energy and The Environment -30-